

EXTENT OF EDUCATION FOR SUSTAINABLE DEVELOPMENT (ESD) INTEGRATION IN MALAYSIAN COMMUNITY COLLEGES

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ABSTRACT

This study was conducted to assess the extent to which ESD is being integrated in community colleges in Malaysia. It was pursued using quantitative-qualitative cross-sectional research design. The Sustainability Assessment Questionnaire (SAQ) developed by University Leaders for a Sustainable Future (ULSF) was modified and used as research instrument. Seven dimensions of sustainability in higher education institutions were covered in the SAQ (Curriculum; Research & Scholarship; Operation; Faculty and Staff Hiring, Development and Rewards; Outreach & Service; Student Opportunities; and Institutional Mission, Structure and Planning). Five community colleges, which were purposely selected based on the maturity level of the organization, and the number and type of programs being offered, were included in this study. Quantitative data was analysed using descriptive statistics with the aid of SPSS software version 16.0. The qualitative data was analysed using thematic content analysis. Results indicated that, to a certain extent, SD is integrated in all the seven dimensions of sustainability. The efforts however are still far from ideal indicating these institutions' level of commitment to ESD. It is important for the community colleges to provide sustainability related courses/training programs as a way to increase sustainability awareness among its staff and students. Lecturers also should take their own initiatives and try to embed sustainability concepts in their research, teaching and learning activities in both formal and informal curriculum. A follow-up study needs to be pursued to cover more community colleges and determine the influence of leadership on successful ESD integration in all seven HEI dimensions.

Keywords: *sustainability, community colleges, TVET, education for sustainable development*

1. INTRODUCTION

Sustainability is a generic concept that covers all the relationships between the environment and human activities (Dovers & Handmer, 1993; Garcia, 2010). Over the last three decades, the environmentalists, scientists and policy makers have examined the world's ecological system more closely and during that time sustainability has gathered force and become a movement in the United States (Cortese, 2003).

In 1983, the United Nations (UN) established the World Commission on Environment and Development (WCED) and published its final report titled 'Our Common Future' which also known as The Brundtland Report 1987. In that final report, a new approach for development was created and it was called 'Sustainable Development', which can be defined as a 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs' (Brundtland Report, 1987, chapter 2, part 1).

Universities and other higher education institutions (HEI) create bridges between knowledge generation and application of this knowledge on sustainable development (SD) in society through the process of education, outreach and service to community and region. There are several ways by which universities and other HEIs (community colleges and polytechnics included) can contribute to sustainable development:

- i. By giving sustainable development a place in all curricular and educational and research program.
- ii. By playing an important role as local knowledge centres for sustainable development in order to help society meet the challenges of sustainable development at the local level.
- iii. By making sustainable development a leading principle in their own logistics and managerial processes (Unesco, 2002).

Moreover, according to Clugston and Calder (1999), there are seven critical dimensions in HEIs (universities, community colleges and polytechnics) activities that need to be addressed when considering sustainability issues:

- i. Curriculum
- ii. Research and Scholarship
- iii. Operation
- iv. Faculty and Staff Hiring, Development & Rewards
- v. Outreach and Service
- vi. Student Opportunities
- vii. Institutional Mission, Structure and Planning

As part of HEIs in Malaysia, community college is a training institution dealing with: the government – synchronizing skills and job training to meet the industrial needs; the industry – provide skilled workers for the industry; and the community – provide training program and counselling service for their skills development. Thus, community colleges can help promote the awareness of sustainable development (SD) using their communications, services, contracts and partnerships to their clients and stakeholders.

Sustainability related activities e.g. 'Go Green' program has been applied in Malaysian community colleges for quite some time. Kolej Komuniti Bandar Penawar (KKBP) for example has done their 'Fruit Farm in Campus Go Green' program in

collaboration with *Lembaga Kemajuan Johor Tenggara*(KEJORA) and Johor agriculture department. Another Go Green related program was done in Kolej Komuniti Paya Besar (KKPB) where they implemented the ‘No Polystyrene’ program for their campus.

Moreover, community colleges in Malaysia are also offering short courses related to sustainability, for example ‘Seaweed Culture’ course that was done in Kolej Komuniti Semporna, in collaboration with the local university, Universiti Malaysia Sabah (UMS). On the other hand, Kolej Komuniti Tambunan Sabah collaborated with Sabah Agricultural Department, AGROBANK and Farmers Organization Authority and introduced the ‘Agro Market Day’ program. This program somehow can create and promote the green image, e.g. ‘Green Purchasing’ concept to the locals and surrounding community. However, there has been no recorded study to determine the implementation of SD in Malaysian community colleges.

Therefore, this study was pursued to measure the extent to which community colleges in Malaysia are integrating SD in the institution’s programs and curriculums, research and scholarship, faculty and staff development and rewards, outreach and service, student opportunities, and institutional mission and planning.

2. METHODOLOGY

This research was pursued using quantitative-qualitative cross-sectional research design. This method was chosen because it is relatively inexpensive and take up little time to conduct. A total of five community colleges were involved in this study, which were purposely selected based on the maturity level of the organization, and the number and type of programs being offered.

The quantitative data was collected by using a Likert-type ordinal scale, some nominal and binary questions. The open-ended questions represent the qualitative aspect of this research. Quantitative data was analysed using descriptive statistics with the aid of SPSS software version 16.0. The qualitative data on the other hand, was manually analysed using thematic content analysis.

Lecturers of community colleges were chosen as respondents for the reason that they meet the criteria to answer the Sustainability Assessment Questionnaire (SAQ) developed by the University Leaders for a Sustainable Future (ULSF). Being a community college lecturer, their job scopes are not confined to teaching but also includes clerical duties, managing, doing research and other common duties of lecturers (Nasir, 2002).

The Sustainability Assessment Questionnaire (SAQ) designed by the ULSF was used as research instrument for this study. The SAQ covered the seven dimensions of sustainability in HEI (Curriculum; Research & Scholarship; Operation; Faculty and Staff Hiring, Development and Rewards; Outreach & Service; Student Opportunities; and Institutional Mission, Structure and Planning). The SAQ was chosen as the preferred instrument for this study for two reasons: 1) it had been piloted in an Australian benchmarking study which evaluated the environmental performance of the country’s 38 major universities (Beringer et al., 2008); and 2) it has been used in the nationwide research on Sustainability in Higher Education (SHE) in Canada and Costa Rica (Garcia, 2010). Nonetheless, the questionnaire was further modified under Malaysian context and pretested to ascertain its validity and reliability.

3. RESULTS AND DISCUSSION

3.1 SD Integration in Curriculum

In *Agenda 21 of the Earth Summit*, one of the objectives proposed in Chapter 36 is ‘to establish or strengthen vocational training programmes that meets the needs of environment and development’ (UNCED, 1992). In line with this objective, this research assessed the extent to which the community colleges address the topic of ESD in their curriculum. Mode= 2 (Little) in Table 1 indicates that a few topics related to sustainability are included in community colleges courses.

Table 1. Respondents’ perception on the extent to which the community colleges address the topic of ESD in their curriculum

Equivalent Adjectival Rating	Frequency	%
0 Don’t know	4	5.9
1 Never	11	16.2
2 Little	44	64.7
3 Somewhat	6	8.8
5 Much	2	2.9
5 To a great extent	1	1.5

McKeown et al., (2002) explained that education related to sustainable development is often being treated differently in different communities. Some will ignore it, some will create a new class dedicated to ESD and in other cases the entire curriculum will be reoriented to address sustainability. However, in the case of community colleges under study, SD is barely being addressed in their curriculum. This could be because, as one of the respondent commented, they still cannot see how they (lecturers) can integrate sustainability in their teaching, for example courses like computer science and accounting.

Table 2 presents the degree to which sustainability concepts are being embedded in existing courses in community colleges as perceived by the respondents. Results show that 8.8% of the respondents chose the option ‘much’, and 2.9% chose the option ‘to a great extent’. Indicating that, sustainability concepts are currently integrated in some community college courses.

Table 2. Respondents’ perception on the degree to which sustainability concepts are embedded in existing courses

Equivalent Adjectival Rating*	Frequency	%
0 Don’t know	6	8.8
1 Never	12	5.9
2 Little	35	51.5
3 Somewhat	7	10.3
4 Much	6	8.8
5 To a great extent	2	2.9

The respondents mentioned (Table 3) the following courses as having sustainability concepts integrated in the curriculum: Electrical (energy sources, principles of electricity, energy saving); Automotive (hybrid technology); Hotel and Catering (hospitality, hygiene, food technology); Tourism (recreation), and short courses programs.

Table 3. Courses Teaching Sustainability

Courses	Topics
Electrical	Energy sources; principles of electricity; energy saving
Automotive	Hybrid technology
Hotel and Catering	Introduction to hospitality; Hygiene; Food Technology
Tourism	Recreation
Others	short courses program

Based on the comments made by the respondents, it clearly shows that the incorporation of sustainability is only evident on selected courses – only on courses that they believed is related to sustainability (Table 3) a manifestation that sustainability is not a crosscutting theme in the community college’s academic programme and initiatives. Since the programs offered in community colleges are prepared by the Ministry of Higher Education (MoHE), it is therefore important for the MoHE to initiate a curriculum review and enhancement if it is committed in contributing to the attainment of Agenda 21 Chapter 36 objective, i.e., “to integrate environmental and development issues into existing training curriculum and promote the exchange of methodologies and evaluations between and among institutions of higher learning” (UNCED, 1992).

3.2 SD Integration in Research and Scholarship

In Talloires Declaration, one of the point of agreements is ‘to engage HEI stakeholders in education, research, policy formation and information exchange on population, environment, and development to move toward a sustainable future’ (ULSF, 1990). In line with this, the study measured the extent of participation of faculty, staff and students in research and scholarship in the areas of sustainability.

Table 4 presents the research efforts being done by faculty and staff in the area of sustainability. Thirty-two percent of the respondents indicated that there is not much sustainability-related research being done in their institutions.

Table 4. Respondents’ perception on extent of faculty and student participation in research in the area of sustainability

Equivalent Adjectival Rating*	Frequency	%
0 Don’t know	18	26.5
1 None	27	39.7
2 Little	22	32.4
3 Somewhat	1	1.5
4 Much	0	0
5 To a great extent	0	0

Some of the research conducted related to SD were recycling and innovation of energy-efficient electrical equipment (Table 5). It is worth reporting that most respondents are not aware if there are any researches on sustainability being done in their institution (as evidenced by Mode=1[None]).

Table 5. List of faculty/staff research related to sustainability

Sustainability related research
Recycling
Innovation of electrical equipment

The above results could also be taken to mean that research in the area of sustainability is not widely held among community college lecturers and students. This could be attributed to the lack of or non-existence of established research centre focusing on sustainability issues in their institution as shown in Table 6.

According to Velazquez et al., (2005), lack of interdisciplinary research and research team is one of the most common challenge in integrating sustainability in HEIs. They claimed that the lack of interdisciplinary research teams capable of providing solutions from environmental, social, and economic perspectives is one of the main problems in fostering sustainability in HEIs. This statement is supported by Capdevila et al., (2002) when he mentioned that there is always an insufficient collaboration and coordination among experts in the different academic units that renders the interdisciplinary research activities in HEIs.

There are only 33.8% of the respondents who chose the option ‘yes’ when they were asked if there are any established multidisciplinary and interdisciplinary structures (such as an institute or centre) for research, education and policy development on sustainability issues in their institution (Table 6).

Table 6: Respondents’ awareness on the existence of centre for research, education and policy development on sustainability issues

Institution	Response	Frequency	Percentage (%)
Community College	Yes	23	33.8

Based on the examples provided by the respondents, there are only two research centres that currently exist in community college- E-Tech Centre and Research and Innovation Unit (Table 7).

Table7: Example of multidisciplinary and interdisciplinary structures in Community Collegessustainability issues

Research centre/Institute
<ul style="list-style-type: none"> • Research and Innovation Unit • E-tech center

Calder and Clugston (2003) explained that a sustainable institution would significantly focus their research on sustainable development, such as sustainable building design, population and development, renewable energy, etc. Unfortunately, the above findings proved that research in sustainability areas is not getting enough attention from community college researchers. Lecturers of the community colleges commented that they usually conduct research based on their teaching field /expertise. This would explain why there are only a small group of lecturers conducting research related to sustainable development.

3.3 SD Integration in Operations

In the Earth Charter, one of the goals is to ‘reduce, reuse, and recycle the materials used in production and consumption system’(UNESCO, 2010). More recently, UNESCO encouraged HEIs to introduce “green” concept/technology in their systems and operations. This area of the study measured the extent to which the institution has implemented the operational practices emphasized by institutions moving toward sustainability. Table 8 presents the sustainability related initiatives that are currently being practiced in community colleges.

Table 8. Sustainability practices in campus

Sustainability Practices	Don't know (%)	Never (%)	Little (%)	Somewhat (%)	Much (%)	A great deal (%)
Recycling of solid waste	0	13.2	23.5	22.1	16.2	25
Energy conservation practices	0	5.9	26.5	17.6	26.5	23.5
Water conservation practices	1.5	29.4	17.6	41.2	5.9	4.4
Waste reduction practices	2.9	14.7	13.2	23.5	20.6	25
Sustainable transportation program	5.9	42.6	35.3	11.8	1.5	2.9
Green purchasing	10.3	58.8	13.2	13.2	1.5	2.9
Sustainable landscaping	13.2	33.8	10.3	10.3	29.4	2.9
Building construction and renovation	13.2	63.2	11.8	7.4	1.5	2.9

Results show that waste reduction is the most prevalent practice in community colleges with 25% of the respondents chose the option ‘a great deal’. As for green purchasing and green building construction and renovation, more than half of the respondents 58.8% and 63.2% have chosen the option ‘never’, which means it is not being practiced in their institution at all.

In Talloires Declaration, faculties are encouraged to teach environmental literacy in order to model right behaviour among its stakeholders (ULSF, 1990). In community colleges under study, their way of teaching environmental literacy is by promoting and implementing recycling of solid waste, energy conservation, water conservation, sustainable transportation, and sustainable landscaping. These practices however are currently not being fully or sustainably practiced in the community colleges. This could be another indication that community colleges are still in their early stage towards sustainability.

3.4 SD Integration in Faculty and Staff Developments and Rewards

This area determined the practices in community colleges to promote sustainability in faculty and staff through hiring processes, recognition, scholarship and development. Table 9 shows the results of respondents’ assessment on the extent to which opportunities are provided by the institution to the faculty and staff development to enhance understanding, teaching and research in sustainability.

Table 9. Respondents’ view on the extent of opportunities provided to faculty and staff for enhanced understanding of sustainability

Equivalent Adjectival Rating*	Frequency	%
0 Don't know	6	8.8
1 None	20	29.4
2 Little	18	26.5
3 Somewhat	17	25.0
4 Quite a bit	5	7.4
5 A great deal	2	2.9

Based on the findings in Table 9, Mode=1(None) indicates that sustainability is not being promoted to the faculty and staff in community colleges. However, based on the comments given by the respondents, the institutions are still providing their faculty and staff some opportunities in sustainability areas, e.g., training on SD for staff, visiting sustainability organization, and computer lab practice (Table 10).

Table 10. Example of faculty or staff development opportunities in sustainability areas

Faculty / Staff development opportunities
• Training for staff
• Visiting place / organization that practice sustainability
• Computer lab practice (Analyzing research data)

Table 11 shows the results of respondents' assessment on the extent to which lecturer's contributions to sustainability is being used as criteria for tenure and promotions. Mode=0 (Don't know) indicates that most lecturers do not know if their contribution to sustainability is counted as one of the criteria for their tenure and promotions or not. However, few lecturers (8.8%) chose the option 'quite a bit', which means their contributions to sustainability are still being counted as criteria for tenure and promotions.

Table 11: Respondents' view on the extent to which lecturer's contribution to sustainability is counted for tenure and promotions

Equivalent Adjectival Rating*	Frequency	%
0 Don't know	28	41.2
1 None	15	22.1
2 Little	12	17.6
3 Somewhat	7	10.3
4 Quite a bit	6	8.8
5 A great deal	0	0

In *Agenda 21* Chapter 36, it was stated that environmental and development awareness must be achieved in all sectors of society on a worldwide scale as soon as possible (UNCED, 1992). Unfortunately, in community colleges in Malaysia, it seems like sustainability is not being promoted to their faculty and staff. This could be because there is still no specific policy focusing on sustainability yet for Malaysian community colleges, unlike polytechnics, where the government has introduced the POLYGreen Blueprint in 2015. The main goal of this blueprint is to integrate environmental management practice into daily activities/practices, in order to expose people to sustainable environment concept; and the vision is to create a green culture and sustaining polytechnics to produce green-collar workers.

In the 25th session of UNESCO convention on Technical and Vocational Education, it was stated in article 5(2) that 'persons teaching in technical and vocational education should be given the opportunity to update their technical formation, knowledge and skills through special courses, practical training and any other organized form of activity involving contact with the world of work' (UNESCO, 1989). It could be noted that the efforts of the community colleges under study in providing sustainability related opportunities for their staff (e.g., training, industrial visit, and workshop) are aligned with the above declaration. However, they may have to design a more purposive and goal-oriented staff development programme on ESD.As for tenure and promotions, lecturer's contributions in sustainability are not being considered as criteria.

3.5 SD Integration in Outreach and Service

There are many ways by which HEIs can connect with their surrounding communities. Calder and Clugston (2003) claimed that getting involved in programs and projects that contribute to SD is one of them. This area of assessment measured the community colleges' involvements in issues related to ESD in its local area and the surrounding region through partnership with schools; relationships with local governments and business, or with international organizations.

Table 12 presents the respondents' view on the extent of their institution's involvement in sustainable community work and partnership at local, regional and international levels. Mode= 2 (Little) indicates that the community colleges are 'involved a little' in sustainable community work/partnership at all levels. Which means, although not much, community colleges are still getting involved with community work/partnership related to sustainability with their communities (Table 13).

Table 12. Respondents' view on the extent of institution's involvement in sustainable community work and partnership as perceived by the respondents

Equivalent Adjectival Rating*	Frequency	Percentage (%)
0 Don't know	3	4.4
1 None	17	25.0
2 Little	19	27.9
3 Somewhat	7	10.3
4 Quite a bit	14	20.6
5 A great deal	8	11.8

Table 13. Institution involvement in sustainable community work or partnerships at local, regional, national or international levels

- Involved in program with community such as:
 - Beautiful Malaysia Day
 - Clean beach program
- Short courses for single mother
- Kolej Komuniti Kuala Langat (KKKL):- Go-green mural painting (collaborate with *Universiti Kebangsaan Malaysia* (UKM) and schools in Banting area)

Table 14 shows that more than half of the respondents (75%) chose the option 'no' when they were asked whether they have formed any links or network with external partners to specifically deliver ESD within their institution.

Table 14. Links with external partners to deliver ESD

Response	Frequency (f)	Percentage (%)
Yes	17	25
No	51	75

The Copernicus Charter stated in its principles that universities and equivalent institutions of higher learning should 'promote interdisciplinary networks of environmental experts at the local, national, regional and international levels, with the aim of collaborating on common environmental projects in both research and education' and 'take the initiative in forging partnerships with other concerned sectors of society, in order to design and

implement coordinated approaches, strategies and action plans' (UNECE, 1994).Based on the above results, it can be deduced that the community colleges were not able to fully operationalize the Copernicus Charter principle of interdisciplinary networking and partnership. In order to enhance their SD outreach and service programmes, these institutions may consider establishing a dedicated unit responsible for establishing partnerships and in joining existing networks at the local and international levels.

Posey (2012) claimed that the size of an institution can affect the sustainability efforts of an institution. He explained that a larger community college (with enrolments of 10,000 or more) might have more resources that they are able to dedicate to sustainability efforts. Based on the statistics provided by the Ministry of Education Malaysia (2014) it shows that the enrolment of the five community colleges under study are still below 10,000. This could be the reason why their involvements in sustainable community work/partnership are still low.

Although the above results appeared to be discouraging, the respondents reiterated that their institution is still participating and getting involved in some sustainability related activities and/or programs in their local areas and surrounding region. Examples of these activities are recycling project (recycling lubricant oil, recycling cooking oil, using sawdust as fertilizer); oil spills clean up at nearby beach; and community service program (Table 15).

Table 15. Specific sustainability initiatives with the involvement of department's members

List of sustainability initiatives:	
a)	Innovation project competition (all departments are involved) <ul style="list-style-type: none"> • Recycling lubricant oil • Recycling cooking oil • Sawdust as fertilizer
b)	Oil spills clean up (nearby beach)
c)	Community service program (helping the Orang Asli community)
d)	Volunteer service (students) join any community services done by the institution

3.6 Student Opportunities to Participate In SD Initiatives

This area determined the practices in the community colleges to provide students with opportunities to participate in sustainability initiatives. Table 16 presents the sustainability related events that are being celebrated in community colleges.

Table 16. Sustainability related events in campus

Event	Campus involvement		Student involvement	
	Yes (%)	No (%)	Yes (%)	No (%)
Earth day	30.9	69.1	30.9	69.1
Environment day	64.7	35.3	66.2	33.8
Recycling day	60.3	39.7	60.3	39.7

Results show that Earth Day, Environment Day, and Recycling Day are being celebrated in community colleges. However, only Environment Day and Recycling Day are getting great involvement from both the students and other members of the institution. In order to increase participation, relevant authorities should ensure that every school is assisted in designing environmental activity work plans with the participation of students and staff (UNCED, 1992).

Table 17 presents the sustainability related opportunities for students that are available in community colleges. Results show that there are three sustainability related opportunities for students that stand out the most in community colleges: i) orientation programs on sustainability for students; ii) student group with an environmental or sustainability focus; and iii) student environmental centre.

Table 17. Sustainability related opportunities for students

Sustainability Opportunities	Percentage (%)
Orientation program(s) on sustainability for students	22.1
Student Group(s) with an environmental or sustainability focus	19.1
Student Environmental Centre	16.2
Others	2.9

It can be noted from the above findings that the community colleges are implementing activities supportive of point one of Talloires Declaration - ‘use every opportunity to raise public, government, industry, foundation, and university awareness by publicly addressing the urgent need to move toward an environmentally sustainable future – e.g., participate in Earth Day and Earth Hour’ (ULSF, 1990). These efforts however could be considered to be in its infancy stage and therefore need to be further enhanced.

3.7 SD Integration in Institutional Mission, Structure and Planning

The first principle in Copernicus Charter is ‘institutional commitment’. The principle advocates that HEI should demonstrate their real commitment to the principle and practice of environmental protection and sustainable development within the academic milieu (UNECE, 1994). In line with this, this area measured the commitment of community colleges to promote sustainable development (SD) at the institutional mission level.

Table 18 presents the respondents’ view on the existence of formal written statement in institution that reflects the institution’s commitment to sustainability. Such statements include policy and planning documents, annual reports, brochures, and catalogues, among others. Mode= 2 (Little) indicates that sustainable development (SD) is actually being incorporated at the community colleges mission level but not much.

Table 18. Respondents’ view on the existence of formal written statements related to sustainability commitments

Equivalent Adjectival Rating*	Frequency	Percentage (%)
0 Don’t know	11	16.2
1 Never	14	20.6
2 Little	20	29.4
3 Somewhat	12	17.6
4 Quite a bit	11	16.2

However, there are six sustainability related positions and committees existing in community colleges (Table 19). The existence of sustainability related positions and committees, e.g., energy officer, environmental coordinator, and green purchasing coordinator; and practices, e.g., 5S programme, Go Green programme, and orientation programme, however, could provide some indication of their commitment to SD.

Table 19: Sustainability related positions and committees in campus

Sustainability related position and committees	Percentage (%)
5S programme coordinator	97.1
Energy Officer	27.9
Orientation programs on sustainability for faculty and staff	25.0
Go Green Programme Coordinator	19.1
Green Purchasing Coordinator	4.4
Environmental Coordinator	2.9

The most common position is the 5S program coordinator (as mentioned by 97.1% of the respondents). This 5S concept is adapted from Japanese terms for Seiri, Seiton, Seiso, Seiketsu, Shitsuke and has been used as a simple tool to organize the workplace in a clean, efficient and safe manner to enhance the productivity, visual management and standardized working.

Calder and Clugston (2003) claim that an institution can communicate and promote sustainability through their mission, structure and planning. In the case of community colleges under study, their commitment towards sustainable development (SD) is not shown in their written statements (e.g., in the form of policy, mission statement, etc.). Velazquez et al., (2005) claimed that lack of policies is one of the reason why an institution is having problem in getting funds for their sustainability activities/projects, and their access to other opportunities e.g., scholarship is also limited.

4. CONCLUSION

Based on the foregoing discussions, it can be concluded that community colleges under study were able to substantially integrate sustainable development in three (curriculum, outreach and service, and institutional mission, structure and planning) of the seven dimensions of sustainability in higher education institutions. It can be further deduced that community colleges' commitment to sustainable development is far from ideal. The lack of policy direction and absence of formal written statements describing the purposes and objectives of institutions reflecting a commitment to sustainability may have contributed to this.

5. RECOMMENDATION

The following recommendations have been made to enhance SD integration in Malaysia community colleges:

- i. The Ministry of Education, particularly the Department of Community College Education should issue policy directives pertaining to full integration of SD in all the seven dimension of sustainability in higher education institutions.
- ii. The Department of Community College Education for its part should develop programs that will promote SD awareness among community colleges and initiate institutional collaborations with leading national and international SD institutions,
- iii. A national workshop on integrating SD in community college curricula needs to be organized at the earliest possible time.
- iv. One of the key reasons why community college researchers are less inclined to conduct SD-oriented research is the lack of incentive for doing so. It is therefore important and urgent to set-up incentive schemes that will reward researchers whose research and findings are being used in improving SD integration in the seven dimensions and in policy making.

- v. A follow-up study needs to be pursued to cover more community colleges and determine the influence of leadership on successful ESD integration in all seven HEI dimensions.

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